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Application No: 10574124 Version No: 2.0

Input Set:

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Finished: 2010-11-15 18:34:54.379
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Total Warnings: 1
Total Errors: 0
No. of SeqIDs Defined: 13
Actual SeqID Count: 13

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (3)

SEQUENCE LISTING

<110> University of Florida Research Foundation, Inc.
Klee, Harry J.
Tieman, Denise

<120> Materials and Methods for Synthesis of a Flavor and Aroma
Volatile in Plants

<130> UF.386CXC1

<140> 10574124

<141> 2010-11-15

<150> PCT/US2004/032599

<151> 2004-10-01

<150> 60/558,504

<151> 2004-03-31

<150> 60/508,568

<151> 2003-10-03

<160> 13

<170> PatentIn version 3.5

<210> 1

<211> 1367

<212> DNA

<213> Lycopersicon esculentum

<400> 1

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acagcgaaaa cagtgtgtgt aacaggagct tcaggttaca tagcttcatg gctagtcaaa	240
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aaaacgcagc acttgctttc tcttgggtgg gccaaaggaga ggcttcactt gttcaaagca	360
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acagcgtctc ctttttacta ctctgttaca gaccacagg ctgaattact tgatcctgct	480
gttaagggaa cactcaatct tctcgggtca tgtgccaaag caccatcagt aaaacgagtt	540
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accagttctg ctgcagtctt gagcttggtg aatggtgctg agacataccc aaattcctct	840
tttgggtggg ttaacgtgaa agatgttgca aatgcacata ttcttgcat tgaagaaccct	900
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<210> 2
 <211> 328
 <212> PRT
 <213> *Lycopersicon esculentum*
 <400> 2

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Lys	Ala	Ser	Val	Arg	Asp	Pro	Asn	Asp	Pro	Lys	Lys	Thr	Gln	His	Leu
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Leu	Ser	Leu	Gly	Gly	Ala	Lys	Glu	Arg	Leu	His	Leu	Phe	Lys	Ala	Asn
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Leu	Leu	Glu	Glu	Gly	Ser	Phe	Asp	Ala	Val	Val	Asp	Gly	Cys	Glu	Gly
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Val	Phe	His	Thr	Ala	Ser	Pro	Phe	Tyr	Tyr	Ser	Val	Thr	Asp	Pro	Gln
				85					90					95	

Ala	Glu	Leu	Leu	Asp	Pro	Ala	Val	Lys	Gly	Thr	Leu	Asn	Leu	Leu	Gly
					100				105					110	

Ser Cys Ala Lys Ala Pro Ser Val Lys Arg Val Val Leu Thr Ser Ser
115 120 125

Ile Ala Ala Val Ala Tyr Ser Gly Gln Pro Arg Thr Pro Glu Val Val
130 135 140

Val Asp Glu Ser Trp Trp Thr Ser Pro Asp Tyr Cys Lys Glu Lys Gln
145 150 155 160

Leu Trp Tyr Val Leu Ser Lys Thr Leu Ala Glu Asp Ala Ala Trp Lys
165 170 175

Phe Val Lys Glu Lys Gly Ile Asp Met Val Val Val Asn Pro Ala Met
180 185 190

Val Ile Gly Pro Leu Leu Gln Pro Thr Leu Asn Thr Ser Ser Ala Ala
195 200 205

Val Leu Ser Leu Val Asn Gly Ala Glu Thr Tyr Pro Asn Ser Ser Phe
210 215 220

Gly Trp Val Asn Val Lys Asp Val Ala Asn Ala His Ile Leu Ala Phe
225 230 235 240

Glu Asn Pro Ser Ala Asn Gly Arg Tyr Leu Met Val Glu Arg Val Ala
245 250 255

His Tyr Ser Asp Ile Leu Lys Ile Leu Arg Asp Leu Tyr Pro Thr Met
260 265 270

Gln Leu Pro Glu Lys Cys Ala Asp Asp Asn Pro Leu Met Gln Asn Tyr
275 280 285

Gln Val Ser Lys Glu Lys Ala Lys Ser Leu Gly Ile Glu Phe Thr Thr
290 295 300

Leu Glu Glu Ser Ile Lys Glu Thr Val Glu Ser Leu Lys Glu Lys Lys
305 310 315 320

Phe Phe Gly Gly Ser Ser Ser Met
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 <220>
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<210> 4
 <211> 1398
 <212> DNA
 <213> Lycopersicon esculentum

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 tcaacaccaa caacaccaag aaaaaacttg aatctttcag tgacggagcc aggaaaaaat 180

 gatggaccta gtttgattg tacattgatg aattatattg atacactcac ccaacgtatc 240

 aactatcata tcggttatcc agttaacata tgttatgagc actatgctaa tttagcccca 300

 cttttacaat ttcatttaaa taattgtggt gatccatttc ttcaaaatac tgtggatttt 360

 cattcaaagg attttgaagt ggctgtttta aattggtttg ctgatttatg ggaaattgaa 420

 agagatcaat attggggcta tgtaacaaat ggtggtactg aaggaaattt acatggcatt 480

 ttggttgga gagaattgtt tccagatgga attttatatg catcaaaaga ctctcattac 540

 tcagtggcta aggcagcaat gatgtataga atggattttg aaaatattaa cgcacata 600

 aatggagaaa tcgattattc tgatttgaaa gttaaattac ttcaaaacaa gggaaaacca 660

 gcgataatta atgttacaat tggcactact tttaaaggag ctgttgatga tcttgatgtt 720

 attcttcaaa tacttgaaga gtgtgggttac acacgagatc aattttatat tcattgtgat 780

 gcagcactaa atggacttat tattcctttt attaaaaata tgattacttt caagaagcca 840

 attggaagtg tgacaatttc tggtcacaag tttttgggat gtccaatgcc ttgtggagtt 900

 caaataacaa ggaaaagtta cattaataac ctttcgagaa gagtcgaata tattgcttct 960

 gtggatgcta caatttctgg aagtcgaaat ggtttgactc cgatcttctt atggtacagt 1020

 ataagtgcta aaggtcaaata tggttttcag aaagacgtta agagatgttt tgacaatgct 1080

 aagtacttga aagaccgtct tcagcaagca ggaatcagcg tcatgctgaa tgagcttagc 1140

atcatagttg tctcgagag gcctcgtgac catgaattcg ttcgtcgttg gcaattatct 1200
 tgtgtgagag atatggcaca tgttattggt atgccaggca taactagaga aactcttgat 1260
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<210> 5
 <211> 465
 <212> PRT
 <213> Lycopersicon esculentum

<400> 5

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 20 25 30

Glu Met Met Arg Leu Lys Val Ser Ser Thr Pro Thr Thr Pro Arg Lys
 35 40 45

Asn Leu Asn Leu Ser Val Thr Glu Pro Gly Lys Asn Asp Gly Pro Ser
 50 55 60

Leu Asp Cys Thr Leu Met Asn Tyr Ile Asp Thr Leu Thr Gln Arg Ile
 65 70 75 80

Asn Tyr His Ile Gly Tyr Pro Val Asn Ile Cys Tyr Glu His Tyr Ala
 85 90 95

Asn Leu Ala Pro Leu Leu Gln Phe His Leu Asn Asn Cys Gly Asp Pro
 100 105 110

Phe Leu Gln Asn Thr Val Asp Phe His Ser Lys Asp Phe Glu Val Ala
 115 120 125

Val Leu Asn Trp Phe Ala Asp Leu Trp Glu Ile Glu Arg Asp Gln Tyr
 130 135 140

Trp Gly Tyr Val Thr Asn Gly Gly Thr Glu Gly Asn Leu His Gly Ile
 145 150 155 160

Leu Val Gly Arg Glu Leu Phe Pro Asp Gly Ile Leu Tyr Ala Ser Lys		
	165	170 175
Asp Ser His Tyr Ser Val Ala Lys Ala Ala Met Met Tyr Arg Met Asp		
	180	185 190
Phe Glu Asn Ile Asn Ala Ser Ile Asn Gly Glu Ile Asp Tyr Ser Asp		
	195	200 205
Leu Lys Val Lys Leu Leu Gln Asn Lys Gly Lys Pro Ala Ile Ile Asn		
	210	215 220
Val Thr Ile Gly Thr Thr Phe Lys Gly Ala Val Asp Asp Leu Asp Val		
	225	230 235 240
Ile Leu Gln Ile Leu Glu Glu Cys Gly Tyr Thr Arg Asp Gln Phe Tyr		
	245	250 255
Ile His Cys Asp Ala Ala Leu Asn Gly Leu Ile Ile Pro Phe Ile Lys		
	260	265 270
Asn Met Ile Thr Phe Lys Lys Pro Ile Gly Ser Val Thr Ile Ser Gly		
	275	280 285
His Lys Phe Leu Gly Cys Pro Met Pro Cys Gly Val Gln Ile Thr Arg		
	290	295 300
Lys Ser Tyr Ile Asn Asn Leu Ser Arg Arg Val Glu Tyr Ile Ala Ser		
	305	310 315 320
Val Asp Ala Thr Ile Ser Gly Ser Arg Asn Gly Leu Thr Pro Ile Phe		
	325	330 335
Leu Trp Tyr Ser Ile Ser Ala Lys Gly Gln Ile Gly Phe Gln Lys Asp		
	340	345 350
Val Lys Arg Cys Phe Asp Asn Ala Lys Tyr Leu Lys Asp Arg Leu Gln		
	355	360 365
Gln Ala Gly Ile Ser Val Met Leu Asn Glu Leu Ser Ile Ile Val Val		
	370	375 380

Leu Glu Arg Pro Arg Asp His Glu Phe Val Arg Arg Trp Gln Leu Ser
 385 390 395 400

Cys Val Arg Asp Met Ala His Val Ile Val Met Pro Gly Ile Thr Arg
 405 410 415

Glu Thr Leu Asp Gly Phe Ile Asn Asp Leu Leu Gln Gln Arg Lys Lys
 420 425 430

Trp Tyr Gln Asp Gly Arg Ile Ser Pro Pro Cys Val Ala Asn Asp Ile
 435 440 445

Gly Ala Gln Asn Cys Ala Cys Ser Tyr His Lys Ile Asp Tyr Ile Ile
 450 455 460

Ala
 465

<210> 6
 <211> 1416
 <212> DNA
 <213> *Lycopersicon esculentum*

<400> 6
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 aaacagaaaa tggcacaacc aggtgcagga ccaaggaaga acttggaact tgaggtcatg 180
 gagcctgcat tgaagaatga tggctccttct ttggacacta tcttggttaa ttatttggac 240
 acacttacac aacgagtcaa ttatcattta ggttatccag tcaacatatg ttatgatcac 300
 tatgcaacgc tagcaccact tttgcagttt cacctaaaca attgtggtga tcctttccta 360
 caaaatactg tcgatttcca ttctaaagac tttgaagtgg ctgttttgaa ttggtttgca 420
 aaactttggg aaattgaaaa ggatcaatat tggggatatg ttaccaatgg tggcaccgaa 480
 ggcaatctcc atgggtatttt gttagggaga gagctacttc ctgaaggaat attatatgca 540
 tcaaaagact ctctattactc agtattcaaa gctgcaagaa tgtatagaat ggattcagaa 600
 acaatcaaca catcagtaaa tggagagatg gattattcag atttaagagc aaagttactt 660
 caaaataagg ataaaccagc tattataaat gtcacaattg gaactacatt caaaggagca 720
 atcgatgacc tggatgttat tcttgaaata ctcaaagaat gtggctattc acaagatcga 780
 ttttacattc actgtgatgc agcactatgt ggtcttatga ccccttttat aaacaatatg 840

attagtttca agaagccaat tggaagtgtc acaattttctg gacacaagtt tttgggatgt 900
 ccaatgcctt gtggtgtcca aataacaaga aaaagctaca tcaataatct ctcaacaaat 960
 gtggaataca ttgcttctgt ggatgccact atttctggta gccgtaacgg tttaactcca 1020
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 agatgtctcg acaatgccaa atatttgaaa gatcgtcttc aacaagcagg gataagtgtc 1140
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<210> 7
 <211> 471
 <212> PRT
 <213> *Lycopersicon esculentum*

<400> 7

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Leu Phe Pro Asn Val Asp Asn Lys Lys Gln Lys Met Ala Gln Pro Gly
 35 40 45

Ala Gly Pro Arg Lys Asn Leu Glu Leu Glu Val Met Glu Pro Ala Leu
 50 55 60

Lys Asn Asp Gly Pro Ser Leu Asp Thr Ile Leu Val Asn Tyr Leu Asp
 65 70 75 80

Thr Leu Thr Gln Arg Val Asn Tyr His Leu Gly Tyr Pro Val Asn Ile
 85 90 95

Cys Tyr Asp His Tyr Ala Thr Leu Ala Pro Leu Leu Gln Phe His Leu
 100 105 110

Asn Asn Cys Gly Asp Pro Phe Leu Gln Asn Thr Val Asp Phe His Ser
115 120 125

Lys Asp Phe Glu Val Ala Val Leu Asn Trp Phe Ala Lys Leu Trp Glu
130 135 140

Ile Glu Lys Asp Gln Tyr Trp Gly Tyr Val Thr Asn Gly Gly Thr Glu
145 150 155 160

Gly Asn Leu His Gly Ile Leu Leu Gly Arg Glu Leu Leu Pro Glu Gly
165 170 175

Ile Leu Tyr Ala Ser Lys Asp Ser His Tyr Ser Val Phe Lys Ala Ala
180 185 190

Arg Met Tyr Arg Met Asp Ser Glu Thr Ile Asn Thr Ser Val Asn Gly
195 200 205

Glu Met Asp Tyr Ser Asp Leu Arg Ala Lys Leu Leu Gln Asn Lys Asp
210 215 220

Lys Pro Ala Ile Ile Asn Val Thr Ile Gly Thr Thr Phe Lys Gly Ala
225 230 235 240

Ile Asp Asp Leu Asp Val Ile Leu Glu Ile Leu Lys Glu Cys Gly Tyr
245 250 255

Ser Gln Asp Arg Phe Tyr Ile His Cys Asp Ala Ala Leu Cys Gly Leu
260 265 270

Met Thr Pro Phe Ile Asn Asn Met Ile Ser Phe Lys Lys Pro Ile Gly
275 280 285

Ser Val Thr Ile Ser Gly His Lys Phe Leu Gly Cys Pro Met Pro Cys
290 295 300

Gly Val Gln Ile Thr Arg Lys Ser Tyr Ile Asn Asn Leu Ser Thr Asn
305 310 315 320

Val Glu Tyr Ile Ala Ser Val Asp Ala Thr Ile Ser Gly Ser Arg Asn
325 330 335

Gly Leu Thr Pro Ile Phe Leu Trp Tyr Ser Leu Ser Ala Lys Gly Gln

340

345

350

Val Gly Leu Gln Lys Asp Val Lys Arg Cys Leu Asp Asn Ala Lys Tyr
 355 360 365

Leu Lys Asp Arg Leu Gln Gln Ala Gly Ile Ser Val Met Leu Asn Glu
 370 375 380

Leu Ser Ile Ile Val Val Leu Glu Arg Pro Arg Asp His Glu Phe Val
 385 390 395 400

Arg Arg Trp Gln Leu Ser Cys Val Lys Asp Met Ala His Val Ile Val
 405 410 415

Met Pro Gly Ile Thr Arg Glu Met Leu Asp Asn Phe Met Ser Glu Leu
 420 425 430

Val Gln Gln Arg Lys Val Trp Tyr Gln Asn Gly Lys Thr Asp Pro Pro
 435 440 445

Cys Val Gly Glu Asp Ile Gly Ala Gln Asn Cys Ala Cys Ser Tyr His
 450 455 460

Lys Ile Asp Tyr Ile Cys Pro
 465 470

<210> 8

<211> 1416

<212> DNA

<213> Lycopersicon pennellii

<400> 8

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aaacaaaagg tgcaacaatc aggtgcaggg ccaaggaaga acttacaact tgaagtcacg 180

gaacctgcat tgaacaatgc tggctcctct ttggacacta tattgggtcaa ttatttagac 240

acacttacac aacgagtcaa ttatcattta ggttatccag tcaacatttg t